

What is claimed is:

1. An europium activated cesium bromide phosphor having the formula (I):

5



in which x is a number satisfying the condition of $0 < x \leq 0.2$, wherein a relationship between an emission intensity of Eu^{2+} and a coloring intensity at $\text{F}(\text{Br}^-)$ center satisfies the following condition:

10

$$0.2 \leq I_E \times I_F$$

15 in which I_E and I_F represent the emission intensity and the coloring intensity, respectively.

2. The europium activated cesium bromide phosphor of claim 1, which is in the form of prismatic crystals.

20

3. The europium activated cesium bromide phosphor of claim 1, wherein the relationship between the emission intensity of Eu^{2+} and a coloring intensity at $\text{F}(\text{Br}^-)$ center satisfies the following condition:

25

$$0.5 \leq I_E \times I_F \leq 30.0$$

in which I_E and I_F represent the emission intensity and the coloring intensity, respectively.

30

4. The europium activated cesium bromide phosphor of claim 1, wherein a ratio of Eu^{3+} to Eu^{2+} contained in the phosphor in terms of emission intensity satisfies the following condition:

35

$$5 \times 10^{-5} \leq \text{Eu}^{3+} / \text{Eu}^{2+} \leq 0.1.$$

5. The europium activated cesium bromide phosphor of claim 4, wherein a ratio of Eu^{3+} to Eu^{2+} contained in the phosphor in terms of emission intensity satisfies the following condition:

$$1 \times 10^{-4} \leq \text{Eu}^{3+} / \text{Eu}^{2+} \leq 1 \times 10^{-2}.$$

6. A radiation image storage sheet comprising the europium activated cesium bromide phosphor of claim 1.

7. The radiation image storage sheet of claim 6, wherein the europium activated cesium bromide phosphor in the form of prismatic crystals is provided according to a vapor-phase accumulation method to form a phosphor film.

8. The radiation image storage sheet of claim 6, wherein the europium activated cesium bromide phosphor is dispersed in a binder polymer to form a phosphor film.

9. An europium activated cesium bromide phosphor having the formula (I):



in which x is a number satisfying the condition of $0 < x \leq 0.2$, wherein a ratio of Eu^{3+} to Eu^{2+} contained in the phosphor in terms of emission intensity satisfies the following condition:

$$5 \times 10^{-5} \leq \text{Eu}^{3+} / \text{Eu}^{2+} \leq 0.1.$$

10. The europium activated cesium bromide phosphor of claim 9, which is in the form of prismatic crystals.

11. The europium activated cesium bromide phosphor
of claim 9, wherein a ratio of Eu^{3+} to Eu^{2+} contained in
the phosphor in terms of emission intensity satisfies the
5 following condition:

$$1 \times 10^{-4} \leq \text{Eu}^{3+} / \text{Eu}^{2+} \leq 1 \times 10^{-2}.$$

12. A radiation image storage sheet comprising the
10 europium activated cesium bromide phosphor of claim 9.

13. The radiation image storage sheet of claim 12,
wherein the europium activated cesium bromide phosphor in
the form of prismatic crystals is provided according to a
15 vapor-phase accumulation method to form a phosphor film.

14. The radiation image storage sheet of claim 12,
wherein the europium activated cesium bromide phosphor is
dispersed in a binder polymer to form a phosphor film.
20